

Abstract Submitted  
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**Measurement of the Cross Section for  $tt\gamma$  Production in pp Collisions at  $\sqrt{s} = 13$  TeV with CMS** NABIN POUDYAL, Wayne State Univ, CMS COLLABORATION — The production of a top quark pair with a photon is sensitive to beyond the standard model physics such as a top quark electric dipole, or top quark production charge asymmetry. We report the cross section for the production of a top quark pair with a photon  $\sigma(tt\gamma)$ , and the ratio of cross sections  $\sigma(tt\gamma)/\sigma(tt)$  using the Run 2 data of the CMS experiment. The analysis is carried out in the semileptonic electron and muon decay channel. Backgrounds are constrained by extensive studies in control regions.

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